

RECEIVED  
CENTRAL FAX CENTER

OCT 27 2006

IN THE CLAIMS

## 1. (currently amended) A radio receiver comprising:

a receiving system for receiving a radio signal according to plural types of radio communication modes, each radio communication mode dealing of which deals with a radio signal having a different power-density spectrum, said receiving system comprising:

plural types of amplifiers, each of which corresponds to one of said radio communication modes, each amplifier amplifying a received signal according to said corresponding radio communication mode, ~~said radio receiving system further comprising~~  
a control unit which selects, based on a radio signal that has been actually received, a waiting mode corresponding to one of said plural types of radio communication modes, and uses an amplifier from said plural types of amplifiers, said amplifier corresponding to the selected waiting mode corresponding to said one of said plural types of radio communication modes, and

a bias current controlling unit controlling a plurality of bias currents, each of the bias currents being provided for a corresponding amplifier when said control unit performs the selecting of the respective waiting mode, each of the bias currents being different from each other bias current

2. (original) The radio receiver as set forth in claim 1, wherein a selection control portion is provided to select an amplifier to be used according to said radio communication system of the received signal.

**3. (previously presented)** The radio receiver as set forth in claim 2, wherein

said receiving system comprises an output selection portion for outputting said received signal to one of said amplifiers according to said radio communication mode; and  
said selection control portion is constructed so as to control the selecting process of said output selection portion and to make one of said amplifiers operate according to the radio communication mode of said received signal.

**4. (original)** the radio receiver as set forth in claim 3, wherein

said output selection portion is provided at an intermediate frequency stage where a radio signal of intermediate frequency band after a radio signal of radio frequency band is down-converted is entered as said received signal; and

said amplifiers are each constructed as one adapted for intermediate frequency band which amplifies said radio signal of intermediate frequency band.

**5. (currently amended)** The radio receiver as set forth in Claim 4, wherein

said plural types of radio communication modes comprise a first communication mode and a second communication mode whose permissible noise signal levels differ from each other, a noise signal being caused to the received signal of itself due to that of the other radio communication mode which differs from the former; and ~~wherein~~

said plural types of amplifiers each comprises a first amplifier adapted for said first communication mode and a second amplifier adapted for said second communication mode, said first and second amplifiers being each set with a different bias current amount so as to each achieve an operating condition meeting said permissible noise signal level;

said output selection portion being constructed as a distributing switch for distributing said received signal to one of said first and second amplifiers; and

said selection control portion being constructed as a switching control portion for switching the output of said distributing switch to one of said first and second amplifiers according to the radio communication mode of said received signal and actuating corresponding one of said first and second amplifiers.

**6. (previously presented)** The radio receiver as set forth in Claim 5, wherein said switching control portion comprises:

a communication mode detecting portion for detecting which one of said first and second communication modes is the radio communication mode of said received signal, wherein if said first communication mode is detected at said communication mode detecting portion, the output of said distributing switch is switched to said first amplifier side and said first amplifier is actuated while, if said second communication mode is detected at said communication mode detecting portion, the output of said distributing switch is switched to said second amplifier side and said second amplifier is actuated.

**7. (previously presented)** The radio receiver as set forth in Claim 6, wherein said second communication mode is an analog radio communication mode utilizing a desired modulating system and said first communication mode is a digital radio communication mode utilizing a spread spectrum system and whose permissible noise signal level is lower than that of said analog radio communication mode.

**8. (original)** The radio receiver as set forth in Claim 7, wherein the bias current amount of said first amplifier is set greater than that of said second amplifier.

**9. (previously presented)** The radio receiver as set forth in Claim 5, wherein said second communication mode is an analog radio communication mode utilizing a desired modulating system and said first communication mode is a digital radio communication mode utilizing a spread spectrum system whose permissible noise signal level is lower than that of said analog radio communication mode.

**10. (original)** The radio receiver as set forth in Claim 9, wherein the bias current amount of said first amplifier is set greater than that of said second amplifier.

**11. (currently amended)** The radio receiver as set forth in Claim 3, wherein

said plural types of radio communication modes comprise a first communication mode and a second communication mode whose permissible noise signal levels differ from each other, a noise signal being caused to the received signal of itself due to that of the other radio communication mode which differs from the former; ~~and wherein~~

said plural types of amplifiers each comprises a first amplifier adapted for said first communication mode and a second amplifier adapted for said second communication mode, said first and second amplifiers being each set with a different bias current amount so as to each achieve an operating condition meeting said permissible noise signal level;

said output selection portion being constructed as a distributing switch for distributing said received signal to one of said first and second amplifiers; and

said selection control portion being constructed as a switching control portion for switching the output of said distributing switch to one of said first and second amplifiers according to the radio communication mode of said received signal and actuating corresponding one of said first and second amplifiers.

**12. (previously presented)** The radio receiver as set forth in Claim 11, wherein said switching control portion comprises:

a communication mode detecting portion for detecting which one of said first and second communication modes the radio communication system of said received signal, wherein if said first communication mode is detected at said communication mode detecting portion, the output of said distributing switch is switched to said first amplifier side and said first amplifier is actuated while, if said second communication mode is detected at said communication mode detecting portion, the output of said distributing switch is switched to said second amplifier side and said second amplifier is actuated.

**13. (previously presented)** The radio receiver as set forth in Claim 12, wherein said second communication mode is an analog radio communication mode utilizing a desired modulating system and said first communication mode is a digital radio communication mode utilizing a spread spectrum system and whose permissible noise signal level is lower than that of said analog radio communication mode.

**14. (original)** The radio receiver as set forth in Claim 13, wherein the bias current amount of said first amplifier is set greater than that of said second amplifier.

**15. (previously presented)** The radio receiver as set forth in claim 11, wherein said second communication mode is an analog radio communication mode utilizing a desired modulating system and said first communication mode is a digital radio communication mode utilizing a spread spectrum system and whose permissible noise signal level is lower than that of said analog radio communication mode.

**16. (original)** The radio receiver as set forth in Claim 15, wherein the bias current amount of said first amplifier is set greater than that of said second amplifier.

**17-33. (canceled)**

**34. (currently amended)** A signal amplifying method in a radio receiver for receiving a radio signal according to plural types of radio communication modes, each radio communication mode dealing with a radio signal having a different power-density spectrum, comprising the steps of:

selecting by a control unit, based on a radio signal that has been actually received, a waiting mode corresponding to one of said plural types of radio communication modes;

selecting by said control unit one of plural types of amplifiers, each of which corresponds to one of said radio communication modes, said selected amplifier corresponding to the selected waiting mode which in turn corresponds to said one of said plural types of radio communication modes; [[and]]

amplifying the received signal using only the selected amplifier of said plural types of amplifiers; and

controlling a plurality of bias currents, each of the bias currents being provided for a corresponding amplifier when said control unit performs the selecting of the respective waiting mode, each of the bias currents being different from each other bias current.

**35. (canceled)**

**36. (new)** A radio receiver comprising:

a first amplifier;

a second amplifier;

a selecting unit performing a first selecting as a received signal from said first amplifier is selected between said first amplifier and said second amplifier when the radio receiver performs receiving process according to a first radio communication mode, and performing a second selecting as a received signal from said second amplifier is selected between said first amplifier and said second amplifier when the radio receiver performs receiving process according to a second radio communication mode; and

a bias current controlling unit controlling a first bias current, which is provided for said first amplifier when said selecting unit performs the first selecting, and a second bias current, which is provided for said second amplifier when said selecting unit performs the second selecting, so that the first bias current is different from the second bias current.

**37. (new)** The radio receiver as set forth in claim 36, wherein

the second radio communication mode is a Code Division Multiple Access (CDMA) mode, and

the first radio communication mode is not the CDMA mode.

**38. (new)** The radio receiver as set forth in claim 37, wherein

the second bias current is set greater than the first bias current.

**39. (new)** A radio receiver comprising:

a first amplifier;

a second amplifier;

a radio communication mode decisioning unit decisioning types of radio signals received by the radio receiver according to plural types of radio communication modes;

a selecting unit, based on a decisioning result of said radio communication mode detecting unit, performing a first selecting as a received signal from said first amplifier is selected between said first amplifier and said second amplifier when the radio receiver performs receiving process according to a first radio communication mode, and performing a second selecting as a received signal from said second amplifier is selected between said first amplifier and said second amplifier when the radio receiver performs receiving process according to a second radio communication mode; and

a bias current controlling unit controlling a first bias current, which is provided for said first amplifier when the selecting unit performs the first selecting, and a second bias current, which is provided for said second amplifier when the selecting unit performs the second selecting, so that the first bias current is different from the second bias current.



**40. (new)** The radio receiver as set forth in claim 39, wherein

the second radio communication mode is a Code Division Multiple Access (CDMA) mode, and

the first radio communication mode is not the CDMA mode.

**41. (new)** The radio receiver as set forth in claim 40, wherein

the second bias current is set greater than the first bias current.

**42. (new)** A radio terminal comprising:

a service area decisioning unit decisioning whether the radio terminal is in a second radio communication mode service area when the radio terminal is under the waiting state during a first radio communication mode, and not decisioning whether the radio terminal is in a first radio communication mode service area when the radio terminal is under the waiting state during a second radio communication mode; and

a shifting unit shifting the radio terminal to the waiting state during the second radio communication mode based on a decisioning result of said service area decisioning unit.

**43. (new)** The radio terminal as set forth in claim 42, wherein

the second radio communication mode is a Code Division Multiple Access (CDMA) mode.